

ABSTRACT OF THE DISCLOSURE

A robust timing offset compensation scheme for multi-carrier systems. According to the invention, a timing offset compensator is provided to compensate a current 5 symbol in the frequency domain for the effect of timing offset with a timing offset prediction value. Then a timing error estimator calculates a timing error value for the current symbol based on a function of a phase tracking value, a channel response of each pilot subcarrier, 10 transmitted data on each pilot subcarrier, and a timing compensated version of the current symbol on the pilot subcarrier locations. Furthermore, a timing tracking unit receives the timing error value of the current symbol to generate a shift amount of the DFT window and the timing 15 offset prediction value for a next symbol.